



Disaster and Emergency Management Resources

Molds in the Home

Health Effects

- Exposure to mold is common both inside and outside the home, but some people are more sensitive to mold than others, especially those with allergies and asthma. Mold exposure may cause cold-like symptoms, watery eyes, sore throat, wheezing and dizziness, and it may trigger asthma attacks.
- Because some mold spores are very small and can easily be breathed deeply into the lungs, it is not safe to live in houses with high mold levels. Exposure to high spore levels can cause people to become allergic to mold.

Detection of Mold

- Molds can usually be detected by a musty odor, and discoloration of surfaces is common with mold growth. The mold may change surfaces to white, green, brown, black, or orange.
- If you see or smell mold, you have a problem. Reliable sampling for mold can be expensive since it requires special equipment and training. Testing is not generally recommended as a first step.

Conditions for Mold Growth

- Molds grow on organic materials such as paper, leather, dirt, and soap scum.
- They grow best at warm temperatures, between 77 and 86 degrees Fahrenheit, although they can grow in temperatures between 32 and 95 degrees.
- Molds grow in moisture. Water leaks, flooding, high relative humidity, and condensation are all situations that increase the growth of mold.

Places Molds Grow

- Basements may have mold if they are wet or damp. Moisture seeping through concrete walls and floors will cause this dampness, resulting in mold on walls, floors, carpeting, and materials (including firewood) stored in your basement.
- Bathrooms are more likely to have mold growth if exhaust fans are not used while showering or bathing. Soap scum, shower walls, ceramic tile, and fiberglass are all possible surfaces for mold growth.

- Laundry rooms are common places to find mold if damp towels and clothing are present. Unvented clothes drying, which produces high levels of relative humidity, can also cause mold growth.
- Kitchens are possible sites for mold growth if large amounts of water are boiled using no exhaust fan. Refrigerator pans in frost-free refrigerators also commonly have mold.
- Closets often have mold growth, especially if clothing is stored damp or dirty or there is a cool outside wall in the closet. And there's a chance mold will be growing behind furniture.

How to Prevent Mold

- Cleaning, disinfecting, and drying surfaces will prevent mold growth. Mold will grow on damp surfaces within a couple days at normal temperatures.
- Reduce moisture levels in the bathroom by running an exhaust fan during and after showers.
- Fix plumbing leaks and seepage to prevent the buildup of moisture and prevent the growth of molds.
- Store clothing dry and clean to prevent the growth of mold on clothes.
- Reduce humidity levels by discontinuing use of a humidifier if the relative humidity is more than 40 percent, and use dehumidifiers and air conditioners when levels of humidity are high. Also, ventilate with outside air during the winter when outside temperatures are colder than indoor temperatures. Ventilating with warm summer air typically increases the air's relative humidity in a basement.
- Increase the flow of air within your home. Moving furniture away from walls and opening closet doors to permit air circulation limit the growth of molds.
- Prevent condensation. Insulating walls and installing storm or thermal-pane windows keep walls warm and limits condensation.

Cleanup and Removal of Mold

- Materials should be dried quickly; mold will grow within about two days.
- Anyone spending more than a brief time cleaning in a moldy environment should use a HEPA filter mask; typically it will have two straps. Also, use gloves.
- Porous materials should be thrown out or completely decontaminated if they are moldy. Hard plastic, glass, and metal can be cleaned and disinfected.

- Remove the mold using a non-ammonia soap or detergent. **Never mix bleach and ammonia.** Surfaces from which the mold cannot be completely removed should be treated with enough chlorine bleach to keep the surface moist for at least 15 minutes, rinsed, and then rapidly dried.
- Disinfect by applying a solution of 1 cup chlorine bleach per 1 gallon water or follow manufacturer's recommendations. The surface should be thoroughly wetted with the solution. Keep the surface wet with the bleach solution 10 to 15 minutes to kill the mold. Allow the solution to dry naturally six to eight hours.
- Other products that kill mold are biocides. These biocides have Environmental Protection Agency (EPA) registration numbers on the bottle and instructions for the intended application.

Adapted from a publication by North Dakota State University entitled “Molds in the Home”